LISTING OF THE CLAIMS

1-4. (Canceled)

5. (Previously presented) A glucose sensor comprising an electrically insulating base plate, an electrode system including at least a working electrode and a counter electrode formed on said base plate, and a reaction layer which is formed in contact with or in the vicinity of said electrode system,

wherein said reaction layer contains phthalic acid or a phthalate, and a glucose dehydrogenase whose coenzyme is pyrrolo-quinoline quinone.

6. (Previously presented) The glucose sensor in accordance with claim 5, wherein said reaction layer further contains a stabilizer, said stabilizer having a function of retaining the activity of the enzyme and the long-term preservation of said sensor and decreasing the blank value of said sensor.

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7. (Previously presented) The glucose sensor in accordance with claim 6, wherein said stabilizer is a metal salt, an organic acid, a protein, an amide acid, a sugar or a derivative thereof, a surfactant, or ammonium sulfate.

8. (Previously presented) The glucose sensor in accordance with claim 7, wherein said stabilizer is a metal salt selected from the group consisting of a calcium salt, a strontium salt and a manganese salt.

9. (Previously presented) The glucose sensor in accordance with claim 8, wherein said metal salt is a sulfate, a nitrate or a halide.

10. (Previously presented) The glucose sensor in accordance with claim 8, wherein said calcium salt is $CaCl_2$.

11. (Previously presented) The glucose sensor in accordance with claim 7, wherein said stabilizer is an organic acid selected from the group consisting of α-ketoglutaric acid, malic acid, fumaric acid, gluconic acid, cholic acid and deoxycholic acid.

12. (Previously presented) The glucose sensor in accordance with claim 7, wherein said stabilizer is a protein selected from the group consisting of bovine serum albumin, egg albumin and gelatin.

13. (Previously presented) The glucose sensor in accordance with claim 7, wherein said stabilizer is a sugar or a derivative thereof selected from the group consisting of a monosaccharide and a derivative thereof, a disaccharide and a derivative thereof, an oligosaccharide and a derivative thereof, and a polysaccharide and a derivative thereof.

14. (Previously presented) The glucose sensor in accordance with claim 13, wherein said stabilizer is a monosaccharide selected from the group consisting of glucose, fructose, galactose, mannose, xylose, inositol, monnitol, sorbitol, ribitol, glucosamine and deoxyglucose, or a derivative thereof.

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15. (Previously presented) The glucose sensor in accordance with claim 13, wherein said stabilizer is a disaccharide selected from the group consisting of sucrose, lactose, maltose and trehalose, or a derivative thereof.

16. (Previously presented) The glucose sensor in accordance with claim 13, wherein said stabilizer is an oligosaccharide selected from the group consisting of malt triose, maltosyl cyclodextrin, α -cyclodextrin, β -cyclodextrin and γ -cyclodextrin, or a derivative thereof.

17. (Previously presented) The glucose sensor in accordance with claim 13, wherein said stabilizer is a polysaccharide selected from the group consisting of dextrin, amylose, glycogen, inulin and Ficoll, or a derivative thereof.

18. (Previously presented) The glucose sensor in accordance with claim 7, said stabilizer is an amido acid selected from the group consisting of lysine, histidine, glutamic acid, glycylglycine and polylysine.

19. (Previously presented) The glucose sensor in accordance with claim 7, wherein said stabilizer is a non-ionic surfactant.

20. (Previously presented) The glucose sensor in accordance with claim 5, wherein said reaction layer further contains maleic acid, a maleate, succinic acid, a succinate, triethanol amine, a triethanol amine salt, citric acid, a citrate, dimethyl glutaric acid, 2-(N-morpholino) ethane sulfonic acid, a 2-(N-morpholino) ethane sulfonate, tris (hydroxymethyl) glycine, a tris (hydroxymethyl) glycine salt, tris (hydroxymethyl) aminomethane, a tris (hydroxymethyl) aminomethane salt, imidazole or collidine.

21. (Currently Amended) A method for stabilizing glucose dehydrogenase for use in glucose sensors, wherein at least one additive is added to glucose dehydrogenase whose coenzyme is pyrrolo-quinoline quinone, said additive being selected from the group consisting of phthalic acid, a phthalate, maleic acid, a maleate, triethanol amine, a triethanol amine salt, dimethyl glutaric acid, 2-(N-morpholino)ethane sulfonic acid, a 2-(N-morpholino)ethane sulfonate, tris(hydroxymethyl)glycine, a tris(hydroxymethyl)glycine salt, tris(hydroxymethyl)aminomethane, a tris(hydroxymethyl)aminomethane salt, imidazole ~~or~~ and collidine.

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22. (Previously presented) A method for stabilizing glucose dehydrogenase for use in glucose sensors, wherein phthalic acid or a phthalate is added to glucose-dehydrogenase whose coenzyme is pyrrolo-quinoline quinone.

23. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 22, wherein a stabilizer is added to glucose dehydrogenase whose coenzyme is pyrrolo-quinoline quinone, said stabilizer having a function of retaining the activity of enzyme and the long-term preservation of said sensor and decreasing the blank value of said sensor.

24. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 23, wherein said stabilizer is a metal salt, an organic acid, a protein, an amino acid, a sugar or a derivative thereof, a surfactant, or ammonium sulfate.

25. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 24, wherein said stabilizer is a metal salt selected from the group consisting of a calcium salt, a strontium salt and a manganese salt.

26. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 25, wherein said metal salt is a sulfate, a nitrate or a halide.

27. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 25, wherein said calcium salt is $CaCl_2$.

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28. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 24, wherein said stabilizer is an organic acid selected from the group consisting of α -ketoglutaric acid, malic acid, fumaric acid, gluconic acid, cholic acid and deoxycholic acid.

29. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 24, wherein said stabilizer is a protein selected from the group consisting of bovine serum albumin, egg albumin and gelatin.

30. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 24, wherein said stabilizer is a sugar or a derivative thereof selected from the group consisting of a monosaccharide and a derivative thereof, a disaccharide and a derivative thereof, an oligosaccharide and a derivative thereof, and a polysaccharide and a derivative thereof.

31. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 30, wherein said stabilizer is a monosaccharide selected from the group consisting of glucose,

fructose, galactose, mannose, xylose, inositol, monnitol, sorbitol, ribitol, glucosamine and deoxyglucose, or a derivative thereof.

32. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 30, wherein said stabilizer is a disaccharide selected from the group consisting of sucrose, lactose, maltose and trehalose, or a derivative thereof.

33. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 30, wherein said stabilizer is an oligosaccharide selected from the group consisting of malt triose, maltosyl cyclodextrin, α -cyclodextrin, β -cyclodextrin and γ -cyclodextrin, or a derivative thereof.

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34. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 30, wherein said stabilizer is a polysaccharide selected from the group consisting of dextrin, amylose, glycogen, inulin and Ficoll, or a derivative thereof.

35. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 24, wherein said stabilizer is an amino acid selected from the group consisting of lysine, histidine, glutamic acid, glycylglycine and polylysine.

36. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 24, wherein said stabilizer is a non-ionic surfactant.

37. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with any of claim 22 to 36, wherein said reaction layer further contains maleic acid, a maleate, succinic acid, a succinate, triethanol amine, a triethanol amine salt, citric acid, a citrate, dimethyl glutaric acid, 2-(N-morpholino)ethane sulfonic acid, a 2-(N-morpholino)ethane sulfonate, tris(hydroxymethyl)glycine, a tris(hydroxymethyl)glycine salt,

tris(hydroxymethyl)aminomethane, a tris(hydroxymethyl)aminomethane salt, imidazole or collidine.

38. (Currently Amended) A glucose dehydrogenase composition for use in glucose sensors, said composition containing glucose dehydrogenase whose coenzyme is pyrrolo-quinoline quinone, and at lease one additive selected from the group consisting of phthalic acid, a phthalate, maleic acid, a maleate, triethanol amine, a triethanol amine salt, dimethyl glutaric acid, (N-morpholino)ethane sulfonic acid, a 2-(N-morpholino)ethane sulfonate tris(hydroxymethyl)glycine, a tris(hydroxymethyl)glycine salt, tris(hydroxymethyl)aminomethane, a tris(hydroxymethyl)aminomethane salt, imidazole ~~or~~ and collidine.

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39. (Previously presented) A glucose dehydrogenase composition for use in glucose sensors, said composition containing glucose dehydrogenase whose coenzyme is pyrrolo-quinoline quinone, and phthalic acid or a phthalate.

40. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 39, said composition further containing a stabilizer, said stabilizer having a function of retaining the activity of the enzyme and the long-term preservation of said sensor and decreasing the blank value of said sensor.

41. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 40, wherein said stabilizer is a metal salt, an organic acid, a protein, an amino acid, a sugar or a derivative thereof, a surfactant, or ammonium sulfate.

42. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 41, wherein said stabilizer is a metal salt selected from the group consisting of a calcium salt, a strontium salt and a manganese salt.

43. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 42, wherein said metal salt is a sulfate, a nitrate or a halide.

44. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 42, wherein said calcium salt is $CaCl_2$.

45. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 41, wherein said stabilizer is an organic acid selected from the group consisting of a α -ketoglutaric acid, malic acid, fumaric acid, gluconic acid, cholic acid and deoxycholic acid.

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46. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 41, wherein said stabilizer is a protein selected from the group consisting of bovine serum albumin, egg albumin and gelatin.

47. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 41, wherein said stabilizer is a sugar or a derivative thereof selected from the group consisting of a monosaccharide and a derivative thereof, a disaccharide and a derivative thereof, an oligosaccharide and a derivative thereof, and a polysaccharide and a derivative thereof.

48. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 47, wherein said stabilizer is a monosaccharide selected from the group consisting of glucose, fructose, galactose, mannose, xylose, inositol, monnitol, sorbitol, ribitol, glucosamine and deoxyglucose, or a derivative thereof.

49. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 47, wherein said stabilizer is a disaccharide selected from the group consisting of sucrose, lactose, maltose and trehalose, or a derivative thereof.

50. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 47, wherein said stabilizer is an oligosaccharide selected from the group consisting of malt triose, maltosyl cyclodextrin, α -cyclodextrin, β -cyclodextrin and γ -cyclodextrin, or a derivative thereof.

51. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 47, wherein said stabilizer is a polysaccharide selected from the group consisting of dextrin, amylose, glycogen, inulin and Ficoll, or a derivative thereof.

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52. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 41, said stabilizer is an amino acid selected from the group consisting of lysine, histidine, glutamic acid, glycylglycine and polylysine.

53. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 41, wherein said stabilizer is a non-ionic surfactant.

54. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with any of claims 39 to 53, wherein said reaction layer further contains maleic acid, a maleate, succinic acid, a succinate, triethanol amine, a triethanol amine salt, citric acid, a citrate, dimethyl glutaric acid, 2-(N-morpholino)ethane sulfonic acid, a 2-(N-morpholino)ethane sulfonate, tris(hydroxymethyl)glycine, a tris(hydroxymethyl)glycine salt, tris(hydroxymethyl)aminomethane, a tris(hydroxymethyl)aminomethane salt, imidazole or collidine.

55. (Currently Amended) A glucose sensor comprising an electrically insulating base plate, an electrode system including at least a working electrode and a counter electrode formed on said base plate, and a reaction layer which is formed in contact with or in the vicinity of said electrode system wherein said reaction layer

contains: a glucose dehydrogenase whose coenzyme is pyrrolo-quinoline quinone; and an additive selected from the group consisting of maleic acid, a maleate, triethanol amine, a triethanol amine salt, citric acid, a citrate, dimethyl glutaric acid, 2-(N-morpholino)ethane sulfonic acid, a 2-(N-morpholino)ethane sulfonate, tris(hydroxymethyl)glycine, a tris(hydroxymethyl)glycine salt, tris(hydroxymethyl)aminomethane, a tris(hydroxymethyl)aminomethane salt, imidazole ~~or~~ and collidine.

56. (Previously presented) The glucose sensor in accordance with claim 82, wherein said stabilizer is a metal salt selected from the group consisting of a calcium salt, $CaCl_2$, a strontium salt and a manganese salt.

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57. (Previously presented) The glucose sensor in accordance with claim 82, wherein said stabilizer is an organic acid selected from the group consisting of α -ketoglutaric acid, malic acid, fumaric acid, gluconic acid, cholic acid and deoxycholic acid.

58. (Previously presented) The glucose sensor in accordance with claim 82, wherein said stabilizer is a protein selected from the group consisting of bovine serum albumin, egg albumin and gelatin.

59. (Previously presented) The glucose sensor in accordance with claim 82, wherein said stabilizer is a sugar or a derivative thereof selected from the group consisting of a monosaccharide and a derivative thereof, a disaccharide, and a derivative thereof, an oligosaccharide and a derivative thereof, and a polysaccharide and a derivative thereof.

60. (Previously presented) The glucose sensor in accordance with claim 59, wherein said stabilizer is a monosaccharide selected from the group consisting of glucose, fructose, galactose, mannose, xylose, inositol, monnitol, sorbitol, ribitol, glucosamine and deoxyglucose, or a derivative thereof.

61. (Previously presented) The glucose sensor in accordance with claim 59, wherein said stabilizer is a disaccharide selected from the group consisting of sucrose, lactose, maltose and trehalose, or a derivative thereof.

62. (Previously presented) The glucose sensor in accordance with claim 59, wherein said stabilizer is an oligosaccharide selected from the group consisting of malt triose, maltosyl cyclodextrin, α -cyclodextrin, β -cyclodextrin and γ -cyclodextrin, or a derivative thereof.

63. (Previously presented) The glucose sensor in accordance with claim 59, wherein said stabilizer is a polysaccharide selected from the group consisting of dextrin, amylose, glycogen, inulin and Ficoll, or a derivative thereof.

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64. (Currently Amended) A method for stabilizing glucose dehydrogenase for use in glucose sensors, wherein a stabilizer and a buffer are added to glucose dehydrogenase whose coenzyme is pyrrolo-quinoline quinone,

said stabilizer being selected from the group consisting of a metal salt, an organic acid, a protein, and a sugar and a derivative thereof, and said buffer being selected from the group consisting of maleic acid, a maleate, triethanol amine, a triethanol amine salt, dimethyl glutaric acid, 2-(N-morpholino)ethane sulfonic acid, a 2-(N-morpholino)ethane sulfonate, tris(hydroxymethyl)glycine, a tris(hydroxymethyl)glycine salt, tris(hydroxymethyl)aminomethane, a tris(hydroxymethyl)aminomethane salt, imidazole ~~or~~ and collidine.

65. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 64, wherein said stabilizer is a metal salt selected from the group consisting of a calcium salt, $CaCl_2$, a strontium salt and a manganese salt.

66. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 64, wherein said stabilizer is an organic acid selected from the group consisting of α -ketoglutaric acid, malic acid, fumaric acid, gluconic acid, cholic acid and deoxycholic acid.

67. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 64, wherein said stabilizer is a protein selected from the group consisting of bovine serum albumin, egg albumin and gelatin.

68. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 64, wherein said stabilizer is a sugar or a derivative thereof selected from the group consisting of a monosaccharide and a derivative thereof, a disaccharide and a derivative thereof, an oligosaccharide and a derivative thereof, and a polysaccharide and a derivative thereof.

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69. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 68, wherein said stabilizer is a monosaccharide selected from the group consisting of glucose, fructose, galactose, mannose, xylose, inositol, monnitol, sorbitol, ribitol, glucosamine and deoxyglucose, or a derivative thereof.

70. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 68, wherein said stabilizer is a disaccharide selected from the group consisting of sucrose, lactose, maltose and trehalose, or a derivative thereof.

71. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 68, wherein said stabilizer is an oligosaccharide selected from the group consisting of malt triose, maltosyl cyclodextrin, α -cyclodextrin, β -cyclodextrin and γ -cyclodextrin, or a derivative thereof.

72. (Previously presented) The method for stabilizing glucose dehydrogenase for use in glucose sensors in accordance with claim 68, wherein said stabilizer is a polysaccharide selected from the group consisting of dextrin, amylose, glycogen, inulin and Ficoll, or a derivative thereof.

73. (Currently Amended) A glucose dehydrogenase composition for use in glucose sensors, said composition containing: at least one stabilizer selected from the group consisting of a metal salt, an organic acid, a protein, and a sugar and a derivative thereof; a glucose dehydrogenase whose coenzyme is pyrrolo-quinoline quinone; and a buffer selected from the group consisting of maleic acid, a maleate, triethanol amine, a triethanol amine salt, dimethyl glutaric acid, 2-(N-morpholino)ethane sulfonic acid, a 2-(N-morpholino)ethane sulfonate, tris(hydroxymethyl)glycine, a tris(hydroxymethyl)glycine salt, tris(hydroxymethyl)aminomethane. a tris(hydroxymethyl)aminomethane salt, imidazole ~~or~~ and collidine.

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74. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 73, wherein said stabilizer is a metal salt selected from the group consisting of a calcium salt, $CaC1_2$, a strontium salt and a manganese salt.

75. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 73, wherein said stabilizer is an organic acid selected from the group consisting of α -ketoglutaric acid, malic acid, fumaric acid, gluconic acid, cholic acid and deoxycholic acid.

76. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 73, wherein said stabilizer is a protein selected from the group consisting of bovine serum albumin, egg albumin and gelatin.

77. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 73, wherein said stabilizer is a sugar or a derivative thereof selected from the group consisting of a monosaccharide and a derivative thereof, a disaccharide and a derivative thereof, an oligosaccharide and a derivative thereof, and a polysaccharide and a derivative thereof.

78. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 77, wherein said stabilizer is a monosaccharide selected from the group consisting of glucose, fructose, galactose, mannose, xylose, inositol, monnitol, sorbitol, ribitol, glucosamine and deoxyglucose, or a derivative thereof.

79. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 77, wherein said stabilizer is a disaccharide selected from the group consisting of sucrose, lactose, maltose and trehalose, or a derivative thereof.

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80. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 77, wherein said stabilizer is an oligosaccharide selected from the group consisting of malt triose, maltosyl cyclodextrin, α -cyclodextrin, β -cyclodextrin and γ -cyclodextrin, or a derivative thereof.

81. (Previously presented) The glucose dehydrogenase composition for use in glucose sensors in accordance with claim 77, wherein said stabilizer is a polysaccharide selected from the group consisting of dextrin, amylose, glycogen, inulin and Ficoll, or a derivative thereof.

82. (Previously presented) The glucose sensor in accordance with claim 55, further comprising a at least one stabilizer selected from the group consisting of a metal salt, an organic acid, a protein, and a sugar and a derivative thereof.

83. (Previously presented) The glucose sensor in accordance with claim 55, wherein the response of the sensor to glucose within the concentration range of 0 to 500 mg/dl is substantially linear after long term preservation.

84. (New) The glucose sensor in accordance with claim 55 wherein said additive is selected from the group consisting of triethanol amine, a triethanol amine

salt, citric acid, a citrate, dimethyl glutaric acid, 2-(N-morpholino)ethane sulfonic acid, a 2-(N-morpholino)ethane sulfonate, tris(hydroxymethyl)glycine, a tris(hydroxymethyl)glycine salt, tris(hydroxymethyl)aminomethane, a tris(hydroxymethyl)aminomethane salt, imidazole and collidine.

G1 cont'd

85. (New) The glucose sensor in accordance with claim 84, further comprising a at least one stabilizer selected from the group consisting of a metal salt, an organic acid, a protein, and a sugar and a derivative thereof.

86. (New) The glucose sensor in accordance with claim 84, wherein the response of the sensor to glucose within the concentration range of 0 to 500 mg/dl is substantially linear after long term preservation.